

REMARKS

Reconsideration and allowance of the subject application are respectfully requested. Applicant thanks the Examiner for total consideration given the present application. Claims 1, 3-4, 7-12, 14, and 18 are pending prior to the Office Action. Claim 19 has been added and no claims have been canceled through this reply. Therefore, claims 1, 3-4, 7-12, 14, and 19 are pending. Claims 1, 7, 12, and 18 are independent. Applicant respectfully requests reconsideration of the rejected claims in light of the remarks presented herein, and earnestly seek timely allowance of all pending claims.

OFFICIAL ACTION

Preliminary Comments

Rejection of claim 12 is not complete:

The Examiner rejects claims 1, 3-4, 12, and 14 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Osako in view of Reinhold in view of Matsumura in further view of Tanuma. However, in rejecting claim 12, the Examiner only mentions the disclosure of Osako. Applicant believes the rejection of claim 12 is not complete but is reading the cited teachings of Reinhold and Matsumura and Tanuma into claim 12 as discussed in claim 1. Applicant respectfully requests the Examiner to clarify the rejection of claim 12.

Claim Rejection - 35 U.S.C. § 112

Claims 12 and 14 are rejected under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the written description/enablement requirements.

The Examiner states “[t]he original disclosure discloses that “a signal is generated through superposition of clock signal CK of high signal level simultaneous with signals of respective channels, this signal being communicated from light-emitting element 4 to light-receiving element 5” (page 9, paragraph [0042])” (see pages 5-6). However, Applicant believes the Examiner has overlooked the entire disclosure. The Examiner will find claims 12 and 14

comply with the written description/enablement requirements by referring to Figures 2 and 8 along with paragraphs 30-32 and 42.

For example, Figure 2 discloses elements 4 and 5 as discussed in paragraph 42; however, Figure 2 also discloses elements 8 and 9. Elements 8 and 9 are further discussed in paragraphs 30-32. As such, Applicant maintains that claims 12 and 14 comply with the written description/enablement requirements.

Claim Rejection - 35 U.S.C. § 103(a)

Claims 1, 3, 4, 12 and 14 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Osako (U.S. Patent No. 4,253,048) in view of Reinhold et al. (U.S. Patent No. 6,587,062) and Matsumura et al. (Japanese Application No. JP48-91909) and Tanuma (Japanese Application JP02-131640). Claims 7 and 18 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Osako (U.S. Patent No. 4,253,048) in view of Slater (U.S. Patent No. 3,611,332) and Schimpf (U.S. Patent No. 3,492,432). Claims 8-11 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Osako and additional references. These rejections are respectfully traversed.

For a Section 103 rejection to be proper, a *prima facie* case of obviousness must be established. *See M.P.E.P. 2142*. One requirement to establish a *prima facie* case of obviousness is that the prior art references, when combined, must teach or suggest all claim limitations. *See M.P.E.P. 2142; M.P.E.P. 706.02(j)*. Thus, if the cited references fail to teach or suggest one or more elements, then the rejection is improper and must be withdrawn.

Argument A) Means-plus-functions limitations of claims 1 and 7:

It is respectfully submitted that the Office Action has not conducted the analysis required by MPEP 2181-2183 to show that the means-plus-function limitations of the claims can be found in the prior art. As provided in MPEP 2182: "The first step in construing a means-plus-function claim limitation is to define the particular function of the claim limitation. ... The next step in construing a means-plus-function claim limitation is to look to the specification and identify the corresponding structure for that function." Section 2183 of the MPEP then provides that if "the

examiner finds that a prior art element (A) performs the function specified in the claim, (B) is not excluded by any explicit definition provided in the specification for an equivalent, and (C) is an equivalent of the means- (or step-) plus-function limitation, the examiner should provide an explanation and rationale in the Office action as to why the prior art element is an equivalent.” This has not been done in the present case, and a prima facie case of obviousness has not been presented. Reconsideration and allowance of claims 1 and 7 are respectfully requested for at least these reasons.

The Examiner responds to arguments by stating: “the original disclosure discloses a ‘black-box’ circuit and does not disclose the details or ‘the corresponding structure’ of the signal separation circuit” (see page 2).

The Examiner can refer to Figures 5-7 and paragraphs 50-53 as disclosing examples of the “one or more output signal separation means for decoding at least one of the time-divided signal or signals and for outputting same to at least one of the respective channel or channels” as recited in claim 1 and the “one or more output signal separation means for decoding at least one of the signal or signals and for outputting same to at least one of the respective channel or channels” as recited in claim 7.

For example, in paragraphs 50-53, the Examiner can find one or more output signal separation means as a plurality of transistor elements, a plurality of thyristor elements, or a plurality of triac elements.

Dependent claims 3-4 and 8-11 are allowable for the reasons set forth above with regards to claims 1 and 7 at least based on their dependency on claims 1 and 7. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejections of claims 1, 3-4, and 7-11 under 35 U.S.C. § 103(a). Reconsideration and allowance of claims 1, 3-4, and 7-11 are respectfully requested for at least these reasons.

Argument B) Features of claim 1 not taught:

Independent claim 1 has been amended, claim 1 now recites, *inter alia*, “said multichannel photocoupler further comprising: one or more synchronization means for, in the event that one or more signals at at least one of the respective channel or channels is transferred

from one or more input sides to one or more output sides, synchronizing the signal or signals through use of one or more prescribed clock signals; and as one or more means for transferring one or more clock synchronization signals from one or more input sides to one or more output sides: transfer of one or more clock synchronization signals simultaneous with one or more signals at at least one of the respective channel or channels through use of the light-receiving element and the light-emitting element transferring one or more signals, wherein a signal is generated through superposition of a clock signal of high signal level simultaneous with signals of the respective channels, this signal being communicated from said light-emitting element to said light-receiving element.”

Osako, Reinhold, Matsumura, and Tanuma do not show or suggest “said multichannel photocoupler further comprising: one or more synchronization means for, in the event that one or more signals at at least one of the respective channel or channels is transferred from one or more input sides to one or more output sides, synchronizing the signal or signals through use of one or more prescribed clock signals; and as one or more means for transferring one or more clock synchronization signals from one or more input sides to one or more output sides: transfer of one or more clock synchronization signals simultaneous with one or more signals at at least one of the respective channel or channels through use of the light-receiving element and the light-emitting element transferring one or more signals, wherein a signal is generated through superposition of a clock signal of high signal level simultaneous with signals of the respective channels, this signal being communicated from said light-emitting element to said light-receiving element” as now claimed, and claim 1 is submitted to be allowable over Osako, Reinhold, Matsumura, and Tanuma for at least this reason.

Dependent claims 3-4 and 9-11 are allowable for the reasons set forth above with regards to claim 1 at least based on their dependency on claim 1. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejections of claims 1, 3-4, and 9-11 under 35 U.S.C. § 103(a). Reconsideration and allowance of claims 1, 3-4, and 9-11 are respectfully requested for at least these reasons.

Argument C) Features of claim 7 not taught:

Independent claim 7 has been amended. Claim 7 now recites, *inter alia*, “at one or more output sides: a light-receiving element receiving one or more signals imparted with one or more changes in one or more optical intensities produced by the light-emitting element.” *Emphasis added.*

The Examiner alleges that Osako discloses a multichannel photocoupler comprising “at one or more output sides: a light-receiving element receiving one or more signals imparted with one or more changes in one or more optical intensities produced by the light-emitting element”; however, Osako does not disclose this feature as alleged by the Examiner.

Contrary to the claimed invention, Osako merely discloses a photo-transistor that merely responds to the light to be conductive. Osako does not disclose a multichannel photocoupler comprising: at one or more output sides: a light-receiving element receiving one or more signals imparted with one or more changes in one or more optical intensities produced by the light-emitting element.

Dependent claims 8-11 are allowable for the reasons set forth above with regards to claim 7 at least based on their dependency on claim 7. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejections of claims 7-11 under 35 U.S.C. § 103(a). Reconsideration and allowance of claims 7-11 are respectfully requested for at least these reasons.

Argument D) Features of claim 12 not taught:

Independent claim 12 has been amended, claim 12 now recites, *inter alia*, “a clock circuit for generating a clock signal, wherein: said input circuit comprises a clock signal transmitter comprising a second light-emitting element, said output circuit comprises a clock signal receiver comprising a second light-receiving element; and a signal from said first light-emitting element and a signal from said second light-emitting element are superimposed.” *Emphasis added.*

Osako, Reinhold, Matsumura, and Tanuma do not show or suggest “a clock circuit for generating a clock signal, wherein: said input circuit comprises a clock signal transmitter

comprising a second light-emitting element, said output circuit comprises a clock signal receiver comprising a second light-receiving element; and a signal from said first light-emitting element and a signal from said second light-emitting element are superimposed” as now claimed, and claim 1 is submitted to be allowable over Osako, Reinhold, Matsumura, and Tanuma for at least this reason.

Dependent claim 14 is allowable for the reasons set forth above with regards to claim 12 at least based on their dependency on claim 12. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejections of claims 12 and 14 under 35 U.S.C. § 103(a). Reconsideration and allowance of claims 12 and 14 are respectfully requested for at least these reasons.

Argument E) Feature of claim 18 not taught:

Independent claim 18 recites, *inter alia*, “a level coupling circuit for level coupling said at least one electrical input signal and **changing an optical intensity at the light-emitting element.**” *Emphasis added.*

The Examiner acknowledges that Osako does not disclose this feature. The Examiner is not clear as to how Slater and Schimpf disclose this feature.

Not even at a minimum do Slater and Schimpf disclose a light-emitting element. Further, neither Slater nor Schimpf disclose **changing an optical intensity at the light-emitting element.**

Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claim 18 under 35 U.S.C. § 103(a). Reconsideration and allowance of claim 18 is respectfully requested for at least these reasons.

Argument F) Non-Analogous Art:

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Also see MPEP 2143.01 VI.

For example, claims 7 and 18 have been allegedly rejected over numerous references

including Slater and Schimpf.

Slater is directed to an underwater telemetry system. The claimed invention is directed to an optical photocoupler. Underwater telemetry systems are not in the field of endeavor of multichannel photocouplers. Thus, Slater fails to satisfy the first prong of the *Oetiker* test. Moreover, one addressing problems of the size of multichannel photocouplers would not logically look to the underwater telemetry arts for possible solutions to the problem being addressed. Slater therefore fails to satisfy this second prong of the *Oetiker* test, and is therefore non-analogous art.

Schimpf is also submitted to be non-analogous art. Schimpf is directed to a multiplexing system for transmitting multiple video signals over a single transmission channel. Multiplexing video signals is not in the same field of endeavor as improved multichannel photocouplers. Moreover, one attempting to address the problem of the size of multichannel photocouplers would not logically look to the video signal multiplexing arts for possible solutions. Schimpf also fails both the first and second prongs of the *Oetiker* test for establishing analogy, and Schimpf is therefore submitted to be non-analogous art. Claim 7 is submitted to be allowable over the art of record for this reason as well.

Dependent claims 8-11 are allowable for the reasons set forth above with regards to claim 7 at least based on their dependency on claim 7. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejections of claims 7-11 and 18 under 35 U.S.C. § 103(a). Reconsideration and allowance of claims 7-11 and 18 are respectfully requested for at least these reasons.

Conclusion

Therefore, for at least these reasons, all claims are believed to be distinguishable over the cited references, individually or in any combination. It has been shown above that the cited references, individually or in combination, may not be relied upon to show at least these features. Therefore, claims 1, 3-4, 7-12, 14, and 18-19 are distinguishable over the cited references.

In view of the above remarks and amendments, Applicant believes the pending application is in condition for allowance.

Application No. 10/820,030
Amendment dated June 16, 2008
After Final Office Action of February 21, 2008

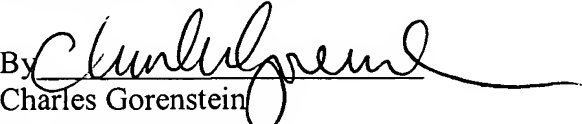
Docket No.: 0951-0136PUS1

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Aslan Ettehadieh, Reg. no. 62,278, at the telephone number below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

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